

third cells oblong, the fourth extending to the apex of the wing. *Legs* simple, elongate; the *tibiæ* armed with two short spines at their apex.

Cladomacra macropus.

C. nigra; capite, thorace, abdominis basi, coxis femoribusque rufo-testaceis; antennis elongatis, pectinatis; alis fumatis, venis fuscis.

Male. Length 3 lines. Black; the head, thorax, and extreme base of the abdomen rufo-testaceous; the head with a deep depression on each side; the antennæ emanating from a short basal footstalk, one-third longer than the body, and pectinate; the teeth or branches elongate and pilose. The wings of a smoky brown, iridescent, with the nervures dark brown. The legs longer than the body; the coxæ, trochanters, anterior and intermediate femora, the base of the posterior pair, and the anterior and intermediate tibiæ inside, rufo-testaceous; the posterior tibiæ and tarsi with short black pubescence.

This beautiful insect, for which I am obliged to establish a new genus, has been received from Mr. Wallace, who captured it in Celebes; the neuration of the wings, and general habit of the species, appear to indicate clearly its affinity to the genera *Cladius*, *Trichiocampus*, and *Nematus*, from all of which it is separated by having four submarginal cells, and antennæ composed of sixteen joints. The normal number in the Tenthredinidæ is nine joints; but there are several genera which depart from that number: thus, in *Sirex* there are twenty-five, in *Xiphydria* thirteen, whilst in *Lyda* the number varies, in the different species, from twenty-one to thirty-four.

XXXIII.—*Descriptions of Freshwater Shells collected in Southern India by Lieut. Charles Annesley Benson, 45th M.N.I. By W. H. BENSON, Esq.*

THE following shells were discovered at Quilon, on the Malabar coast, in the territory of Travancore, a portion of country which appears hitherto to have escaped the researches of conchologists. Among other species, the little-known *Melania Riquetii*, De Grateloup (figured and described by that author in the 'Acts' of the Nat. Hist. Society of Bordeaux), from Bombay, was found to accord perfectly with the published type, which appears to have been subsequently described by Lea under the designation of *M. Tornatella*. The figure in the 'Iconica' (173 *b*) delineates the sculpture of *M. Riquetii*, while that given at 173 *a* agrees better with Souleyet's *M. sculpta*, a species which was found by the late Dr. Bacon at Singapore. I have seen one of the numerous varieties of *Melania lirata*, B. (J. A. S. 1836, sub-

sequently described by Lea as *M. lateritia*), mistaken for *M. Riquetii*.

Clea Annesleyi, B.

Testa oblongo-ovata, solidiuscula, radiatim striata, striis sulcisque spiralibus obsolete plus minusve decussata, epidermide olivacea, fasciis castaneis superne subtusque conspicuioribus ornata, nonnunquam omnino atro-castanea, induta; spira ovato-conica, apice obtusiusculo plerumque eroso, sutura impressa; anfractibus $4\frac{1}{2}$ convexiusculis, ultimo $\frac{2}{3}$ testæ æquante, prope suturam angulato, infra medium sulcis duobus obliquis, et basin versus crista compressiuscula cincto, basi profunde emarginata; apertura elliptico-ovata, intus (præcipue superne subtusque) fasciata, peristomate tenui, infra ad finem sulcorum undulato, columella superne sinuata, callosa, polita, livide lilacina, margine antice incrassato spiraliter torto, callo parietali crasso, plerumque atro-purpureo. Operculo unguiculato, parvo, corneo, nucleo marginali, dextrali, subbasali, rostro basali elevato munito.

Long. $8\frac{1}{2}$, diam. $4\frac{1}{2}$ mill.

Habitat in stagno prope Quilon.

This interesting form was taken alive in a tank between the sea and the canal which communicates with Cochin to the north of Quilon. It was accompanied by *Corbicula Quilonensis*. The last whorl is occasionally of a blackish olive hue; and in this state the interior is tinged with purplish black. Soaked in warm water, the epidermis assumes a pustulose character, which disappears when the shell is dry.

The species in question appears to enter into the genus *Clea*, H. & A. Adams, founded on shells from Borneo and Malacca, in the 'Zoological Proceedings' for 1855, agreeing therewith in the construction of the columella and base of the shell, though belonging to a different sectional type of form.

Lovell Reeve has, in the 'Conchologia Iconica,' merged *Clea* into Swainson's *Hemisinus*, in which the base of the columella is simply sinuate, and of which the typical species inhabit tropical America. He gives no information regarding the operculum, which was scarcely likely to be absent from all the specimens of *Hemisinus* which came under his inspection in Mr. Cuming's collection. Whether it is spiral as in *Melania*, or unguiculate as in *Tanalia*, is not stated; neither is any account given in the 'Zoological Proceedings' of the construction of the operculum in *Clea*. Figures and descriptions of Brazilian *Hemisini*, under the genus *Melanopsis*, appear in the Number of the 'Journal de Conchyliologie' for July 1860; but no mention is made of the operculum, the examination of which is too frequently neglected.

The aspect of the shells figured in the 'Conchologia Iconica' as *Melanopsis Zelandica*, Gould, and *M. Strangei*, Reeve, affords

some grounds for conjecture that an examination of their opercula will eventually prove their approximation rather to *Clea Annesleyi* than to the Southern-European genus with a sub-spiral operculum, to which they have been attributed. It appears probable that, notwithstanding the basal emargination, *Clea* will, with reference to its unguiculate operculum, be found to have nearer relations with the Cingalese genus *Tanalia* than with *Melania* and its congeners. The curious narrow and somewhat recurved process at the lower part of the operculum is suited to the formation of the base of the shell, of which the emargination is as strongly pronounced as in the genus *Columbella*.

It is not impossible that some of the American species of *Hemisinus* may be found to consort rather with *Clea* than with the original Swainsonian type; but the association of *Melania strigilata*, Dunker, and *M. Esperi*, Fér. (which last has doubtless the spiral operculum of *Melania*), with such conspicuous types as *Clea nigricans* and *C. Annesleyi* is scarcely consistent with the present state of conchological knowledge. *Clea* might apparently be united with more propriety to *Buccinum* than to the Melaniadæ.

Melanopsis Helena, Meder (a Javanese species included by Reeve in *Hemisinus*), approaches *Clea* in the deep emargination at the base, but cannot fairly be included in that genus with reference to other characters. The formation of the columella is very different.

Bithinia Travancorica, B.

Testa imperforata, conoideo-globosa, irregulariter striata, striis minutissimis spiralibus confertim decussata, albida, vel corneo-flavescente, translucente; spira dimidium testæ æquante, apicem versus conoidea, vertice obtusiusculo hyalina, sutura impressa; anfractibus $4\frac{1}{2}$ convexis, ultimo globoso, antice sensim descendente; apertura obliqua, ovata, margine sinistro calloso, callo extus sulco marginato. Operculo normali, crassiusculo, extus nonnunquam tenuiter radiatim striato; nucleo subcentrali.

Long. 6, diam. 5 mill.

Habitat in stagnis prope Quilon.

This shell approaches a smaller species found by Mr. F. Layard in a watercourse at Bandurawelle, near Badulla in Ceylon, but differs from it in having a shorter conoidal spire above the globose lower and penultimate whorl, and in colour and solidity. The minute spiral striation found in several Indian species is common to both. Specimens taken on weed and stones in a pool were in very fine condition, and exhibited the delicate radiating striation on the operculum; a smaller variety from a tank had the shells more or less eroded, chiefly at the summit.

Corbicula Quilonica, B.

Testa inæquilaterali, trigono-rhomboidea, gibba, tenui, concentrice subremote costata, costis postice evanescentibus, sulcis intermediis latioribus, sub lente decussatim striatis, albida vel lutea, radiis fuscis angustis ornata; umbonibus prominentibus, apice fere eroso; latere antico brevior, valde arcuato, angustior, postico striato, latior; superne et basin versus angulata; margine ventrali medioeriter arcuato; ligamento oblongo intra nates attenuato; pagina interna valde concava, albida, maculis radiisque purpureis ornata; dente mediana valvæ dextræ duplici, dentibus lateralibus brevibus serrulatis.

Lat. 10, long. 8, crass. $5\frac{1}{2}$ mill.

Habitat prope Quilon in stagno cum *Clea Annesleyi*.

The younger shells are more gibbous towards the umbones in proportion to their length than the larger specimens. A tawny-yellow epidermis covers the fresher specimens. The rays are numerous, more or less broad, sometimes appearing as mere lines of small spots, and occasionally spreading so as to make the surface appear nearly black. The species is very distinct from any of the *Corbicula* collected by myself or obtained from Northern or Central India. The shortness of the lateral teeth, on the anterior side especially, is a notable character, as well as the inæquilateral form, which is more conspicuous in the young than in the adult shell.

Dursley, August 29, 1860.

Note.—The water contained in the tank which is inhabited by *Clea Annesleyi* and *Corbicula Quilonica* is probably brackish. A parcel, received while this paper was passing through the press, includes specimens of a *Cerithium* resembling *C. eximium*, Sow., obtained from the same pond, which has a muddy bottom and grassy banks perforated by a small crab. In a large specimen of *Clea*, 10 mill. in length by $5\frac{1}{2}$ in breadth, with five whorls and a less eroded apex, the last whorl scarcely attains $\frac{4}{7}$ of the total length of the shell.

September 3, 1860.

XXXIV.—On the Genera *Peltogaster* and *Liriope* of Rathke.

By W. LILLJEBORG.

[With a Plate.]

[Continued from p. 173.]

Liriope pygmæa, Rathke.

Beiträge zur Fauna Norwegens, Nova Acta Acad. Leop. 1843, vol. xx. p. 60, tab. 1. figs. 8–12. Sine dubio mas junior, tamen non ineunte ætate.

On the 23rd of July, 1858, the author found in the sea, near